

Tsunamis due to solid slab landslides along the slope-theoretical solution

Sin-Iti Iwasaki

National Research Institute for Earth Sciences and Disaster Prevention, Tsukuba, Japan¹

Abstract. The generation mechanism of landslide tsunamis is still not fully clear. Using the time dependent Green's function in a sector, landslide tsunami wave height and horizontal scale is theoretically connected to solid landslide slab dimensions and the velocity of the slide. Various assumptions were made; linear theory, solid slab landslide, uniform sliding velocity, uniform slope, and 2-dimensional topography. This result cannot be applied to the real landslide tsunamis simply. But, the results will give some insights about landslide tsunamis generally, such as relation between the maximum landslide tsunami height and landslide slab amplitude, velocity of the slide, angle of the slope, and so on.

¹National Research Institute for Earth Science and Disaster Prevention, 3-1 Tennodai, Tsukuba 305-0006, Japan (cuh@bosai.go.jp)